User Manual

Spinoza Technology

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Spinoza Navigator version 3.0.2.5

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Contents

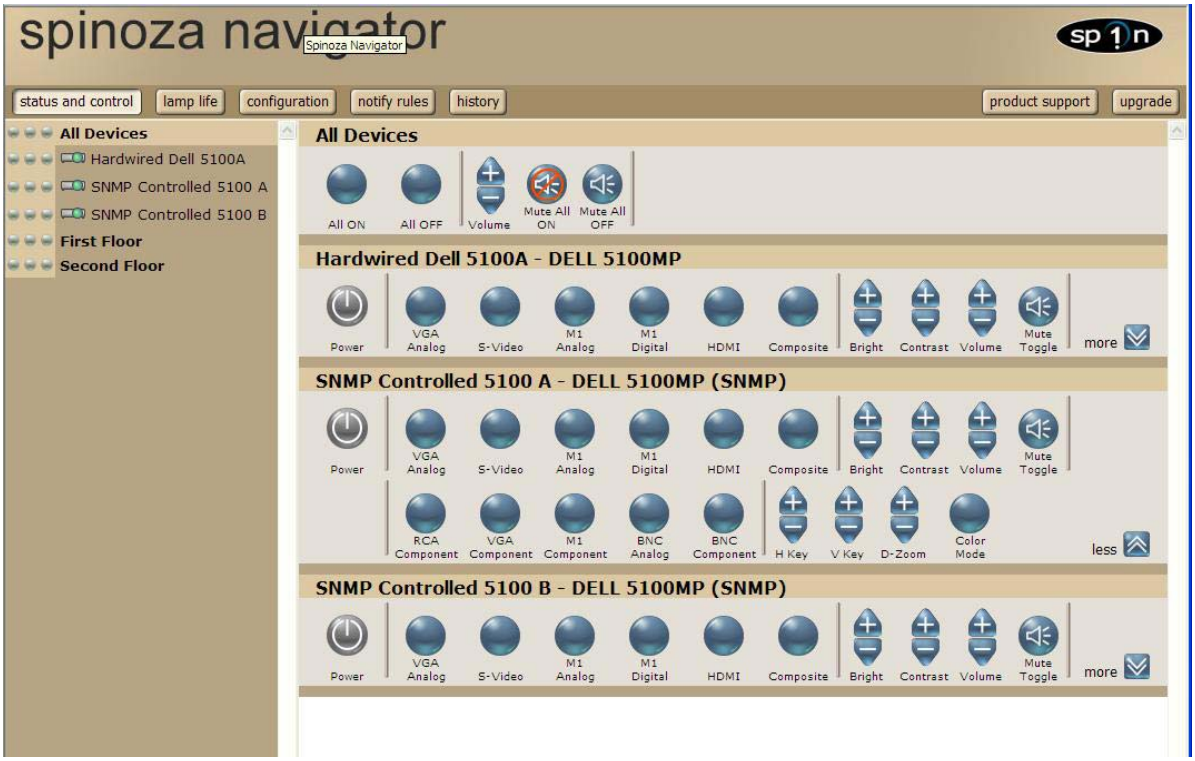
1. Introduction 3
2. Installing Spinoza Navigator Server 4
Minimum System Requirements 4
Prerequisite Software 4
3. Using the Navigator Web Client 6
4. Status and Control Page 8
5. Configuration Page 12
Site Configuration 12
Device Configuration section 12
Locations section 13
6. Site Configuration page 14
7. Device Configuration page 16
8. Location Configuration page 19
Importing and Exporting Locations 20
9. Lamp Life Page 21
10. Notify Rules Page 22
Notification Rules section 23
Mail Settings section 23
Devices to Check section 23
Notification Reason section 24
11. History Page 25
12. Advanced 26
Scheduled Commands 26
Command Schedule section 29
Command Description section 29
Notification Rules 31
Defining User Events 31
Location Import File Format - XML 32
Location Import File Format - CSV 33
Driver 4 (Christie Roadrunner L6) Configuration File Format - XML 34
For more information 37

1. Introduction

The Spinoza Navigator Suite manages communications, status, and controls for projectors, and issues notifications and reports based on user-defined events. The Suite consists of 3 primary applications:

- **Spinoza Navigator Device Services** – this is a device server that interfaces with the projectors, sending commands and monitoring health.
- **Spinoza Navigator Event Monitor** – this application watches for UDP messages issued by the Device Server. Based on user-defined notifications rules, SMTP email messages can be sent to any designated user(s). The Event Monitor also stores the notifications in a database for subsequent analysis.
- **Spinoza Navigator Web** provides the user interface that allows you to configure your projector network, define notification rules, view reports on device usage, and control the projectors themselves.

This document is primarily concerned with describing the Spinoza Navigator Web interface. The home page provides control functions and is the page you will become most familiar with. A sample is shown below:



2. Installing Spinoza Navigator Server

The Navigator Web site is implemented using Microsoft .Net, and uses Microsoft's Internet Information Service (ISS). The site requires the Microsoft .Net Framework 1.1, and IIS 5 or greater. (See the *Spinoza Navigator Quick Start Guide* for more info.)

Minimum System Requirements

- PC with 300 megahertz or higher processor clock speed recommended; 233 MHz minimum required (single or dual processor system);* Intel Pentium/Celeron family, or AMD K6/Athlon/Duron family, or compatible processor recommended
- 128 MB RAM (256+ MB recommended)
- 20 MB Disk Space
- Display Resolution: 1024x768

Prerequisite Software

- Microsoft Windows XP Professional with IIS
- Microsoft .Net Framework 1.1

Any audio-visual (AV) device you plan to control or manage must be connected to the network. Then Spinoza Navigator Server must be installed on a server computer. To actually control the device, you can then use a web browser on any computer on the network.

IMPORTANT NOTE: Before you can actually begin using Spinoza Navigator, you must first obtain a License Key by visiting the Spinoza web site at http://spinozatechnology.com/navigator. The License Key is required from you before you use the software for the first time. You are allowed to install Spinoza Navigator software on multiple computers, but the software will allow you to control only up to the number of devices authorized by the License you have purchased.

To install Spinoza Navigator Server:

1. Close all applications you have running.
2. Insert the Spinoza Navigator CD. The Setup program should launch automatically in Windows. If it does not, you can open the CD and double-click on the **Setup** program icon.
3. Select Install Spinoza Navigator on the Setup screen.
4. Click **Next** to continue through a series of screens with information about the **License Agreement**, **Minimum System Requirements**, **Prerequisite Software**.
5. Select a **Destination Location** for the installed files.
6. On the **Select Additional Tasks** screen, it is recommended that you leave the following boxes checked:
   - **Install Basic Device Services** (these are the core software services required to control devices)
   - **Install Navigator Event Monitor** (this installs the software component that reports various events related to a device)
   - **Install Navigator Web Client** (this installs a link on the desktop of the Server machine)
   - **Display Option - Set desktop wallpaper** (This option allows you to rapidly identify any computer being used to host Spinoza Navigator)
7. When prompted, enter the **License Key** that you have obtained by visiting the Spinoza web site at http://spinozatechnology.com/navigator. (You will not be able to use the software until you first enter the License Key.)
8. Follow the onscreen steps to complete the installation process.

IMPORTANT NOTE: While the Navigator Web relies on an IIS web site (a component part of Windows operating systems), the Navigator Device server itself is implemented using the NavTunnelVision (GoAhead) web server. Therefore, when you install the Spinoza Navigator suite, there will actually be two web servers running (NavTunnelVision on port 100 and IIS on port 80). The Navigator Web site (IIS) communicates with NavTunnelVision and uses it to monitor and control projector devices.

3. Using the Navigator Web Client

Spinoza Navigator uses a web browser client to communicate with the server computer that in turn manages projectors and other A/V devices.

When you install the Navigator Web, you create a site called (by default) NavigatorWeb on the target machine. So the default Web address (or URL) of the Navigator Web on a local network is: http://TestMachine/NavigatorWeb (where "TestMachine" is the name by which the Server computer is known on its local network). This will redirect you to the home page of the Navigator Web. As a .Net web site, the initial redirection may be a bit slow. However, subsequent access will be fast.

IMPORTANT NOTE: In order to access the Navigator Web across more than one domain in an enterprise network, you will need to use a Web address (or URL) for the Navigator Web that is appropriate for the way your network is set up.

For example, if your name is Irene and you work at Templeton Corporation, the address might be similar to this:
http://IrenePC.templeton.com/NavigatorWeb

You can use the address of the Navigator Web to enable any computer connected to the network to directly manage the devices attached to the Navigator Server computer.

There are five primary pages on the Navigator Web:

- Status and Control
- Lamp Life
- Configuration
- Notify Rules
- History.

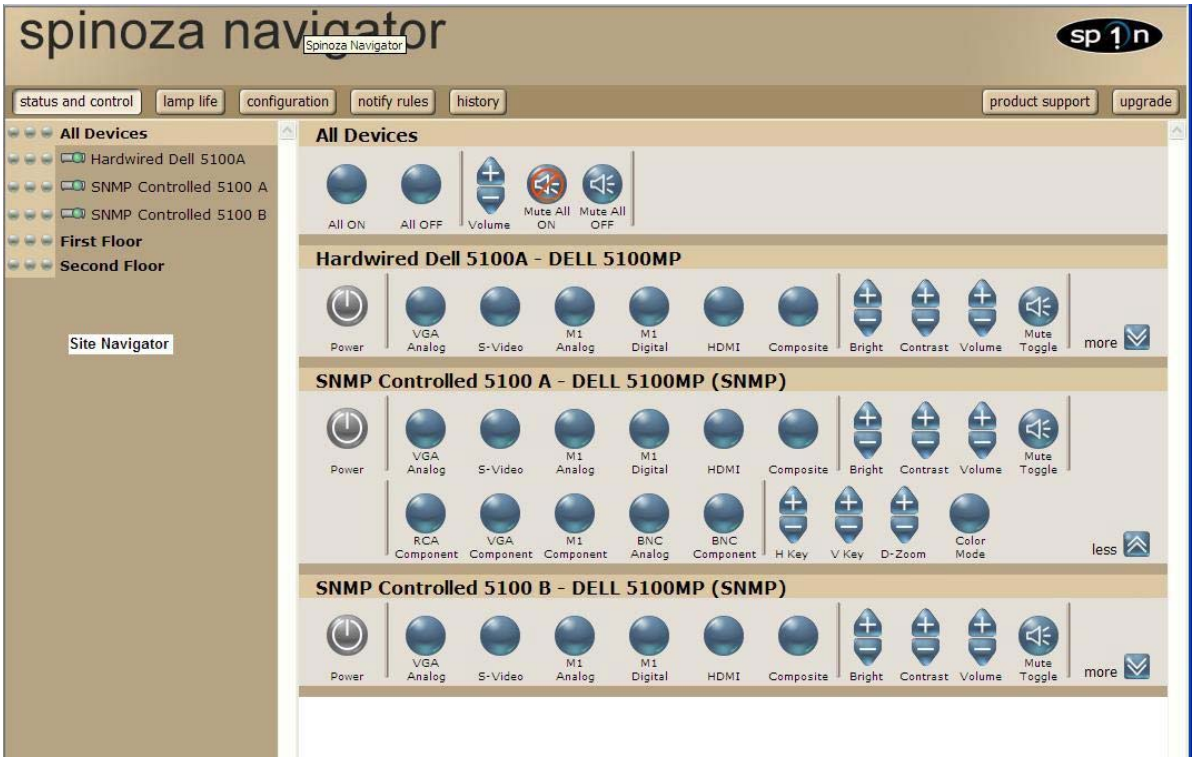
These can be reached at any time by using the navigation buttons in the top control strip:

In this example, the **Status and Control** page is currently selected (notice how the button has a different appearance). The other pages can be shown by pressing the buttons to the immediate right. On the far left are 2 buttons that will bring up the Spinoza Technology web site and provide product support and give you the opportunity to upgrade from the free trial to a permanent license. Also, when you are using a free trial license, the section in the middle (indicated by the red line) will appear. This section will show you how much time remains on the trial license.

4. Status and Control Page

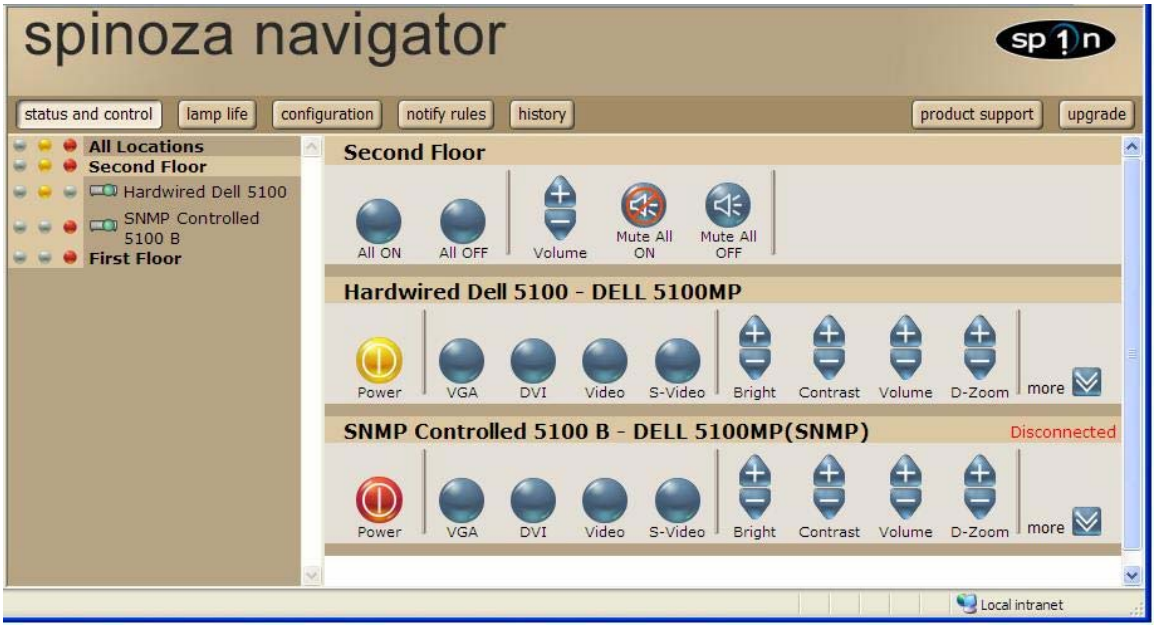
The default (home) page of the Navigator Web Interface is the **Status and Control** page, shown below.

Note: Spinoza Navigator uses the term "Location" to describe a set of devices created by a user. For example, a Location might include all the devices in a specific conference room, or all the devices you want to send a command to at a specific time, or all the devices you have configured to be managed by Navigator.



This sample shows a configuration that has 3 projectors (**Hardwired Dell 5100A**, **SNMP Controlled 5100 A**, and **SNMP Controlled 5100 B**. And, in addition to the standard location (**All Devices**), there are two other locations (**First Floor** and **Second Floor**). On the left is the **Site Navigator**, which allows you to select which location appears on the right site. The example shows the default mode, where **All Devices** is the selected Location. When selected, a location and its devices will appear in the right-most pane. If a projector is selected, the right pane will scroll so the selected device is visible. The icons in the **Site Navigator** describe the state of the devices, and of the locations. A location will show a particular icon if any device with the location shows that icon.

The sample below shows another snapshot of the configuration shown above. In this case, the **Second Floor** location has been selected, which contains 2 of the projectors. At the time this snapshot was taken, the **Hardwired** device was starting up (thus the yellow icon) and the **SNMP B** device was disconnected.



The rightmost pane is the **Location Status and Control** view. The top-most strip (**Second Floor** as shown) provides controls that apply to all devices in that location. This allows you to turn all devices on or off with a single click. Similarly, volume can be set and mute can be enabled or disabled for all devices with one click.

Beneath the location strip are sections that describe each device present in that location, and allow you to control that device specifically. Note the **SNMP B** device has a **Disconnected** error appearing to the right of its title. This is where status messages appear. When the device is online, the power icon will show green and the lamp hours will appear in this area:

On the far right of each strip, you'll see buttons labeled **More** and **Less**. These allow you to see only the primary controls (as in the first projector row), or to show expanded controls (as the second projector row). These settings will be remembered so next time you see that device it will appear with the same controls showing.

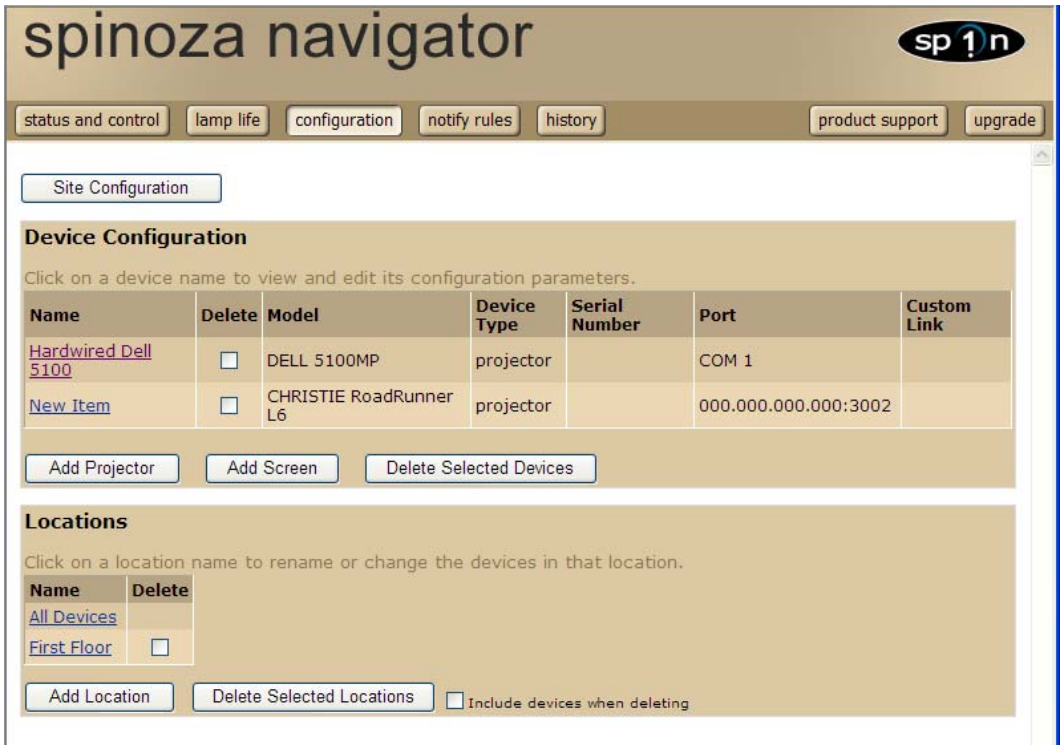
Within a projector's control strip, the first button **Power** is always present. The color of this button indicates the state of the device. These colors correspond to the icons in the **Site Navigator**. ***Green*** is on, ***Red*** is an error state (**Disconnected** above), and ***Yellow*** means the device is changing (warming up or cooling down). ***Gray*** indicates the projector is off. The other controls appear according to the attributes provided by the selected projector. Now, look to the **Site Navigator**. You'll see the status of each device appearing again as an indicator. And, the highlighted **Second Floor** has a ***Green*** and ***Red*** icon, because at least one device contained within it is on, and at least one is in error.

You may change the input source of a projector by selecting the corresponding button. After the source is successfully selected, the button will appear in the highlighted green mode. The other controls should be self-explanatory, and correlate to the basic projector functions. Note that the latency within the system and within the projector may not produce immediate response; it may be necessary to wait a moment or two before the request has the desired effect.

In addition to the More or Less state of each device, the Status and Control page remembers the width of the Site Navigator window and which Location is currently selected. When you return to the Status and Control page, these settings take effect once again, making the page look just as it did when you left.

5. Configuration Page

You use the Configuration Page to set up devices to be monitored using Spinoza Navigator, to group devices into Locations so you can manage them in a coordinated way, and to change how the overall system is configured.



Site Configuration

You can view and modify your overall Navigator site configurations by choosing the Site Configuration button. For a description of Site Configuration, see Section 6.

Device Configuration section

In this section, you can modify the devices known to the system. When a device already exists and must be modified, click on the device name – this will lead you to the **Device Configuration** page. Devices can be removed from the system by selecting the **Delete** check box and then pressing the **Delete Selected Devices** button. New devices can be defined by pressing the **Add** buttons, which lead to the **Device Configuration** page.

Note that if you are at the maximum number of devices defined by your license, the **Add** buttons will not appear. You can increase the number of devices allowed by visiting the Upgrade page on the Spinoza Navigator web site, which can be accessed via the Upgrade button on the top control strip.

Locations section

In this section, you can modify the Locations known to the system. Locations are a convenient way to group devices. Use of **Locations** is optional – there is always a location called "**All Devices" that displays every device in the system**. **Locations** can be used to control many devices via a single command, or to easily view the status of many devices at once. Note that a device can be contained in more than one location (in fact, if you define your own **Locations**, this will always be the case, since **All Devices** is always present).

The **Locations** list functions exactly the same as the Device list – click the **Location** name to modify the **Location**, use the **Delete** check box when you wish to remove a **Location**, and use the **Add** button to create a new Location. When deleting a location, you can also request that all devices contained in that location are also deleted, using the "Include devices when deleting" checkbox.

6. Site Configuration page

This page allows you to define various site parameters:

- **Interval for checking Scheduled Notifications check (sec)** – This value defines how frequently the **Event Monitor** will check to determine if time-based rules have fired. If no time-based rules defined, this should be set to **Off** to conserve system resources. However, resource usage is quite low, so don't be afraid to set a low threshold if you do have rules – you can always set it to a higher value if you need to later.
- **Interval for Device Server refresh (sec)** – This value defines how frequently the Navigator Web server will check the Device Server to retrieve device information
- **Interval for Page refresh (sec) -** This value determines how frequently the various pages of the Navigator web site will check the Navigator Web server to determine if new information should be displayed. This value will be the same for all users of the Spinoza Navigator, so the value should be chosen appropriately based on users' machine speed and total number of anticipated users. You can change this easily at any time.
- **Threshold for Lamp Usage warning (hrs)** – This value determines when the Navigator web pages show **Replace Lamp** indications. Note that other values can be used to trigger notification rules. The best strategy may be to have a notification rule trigger first, so new lamps can be purchased, and have the Navigator Web warn only when the lamp is getting close to its anticipated lifetime.
- **Device Server IP** – This is the IP address by which the Navigator Web server communicates with the Device Server. If DNS is available on the network, it can be a name; if not, it should be an IP address (e.g. 123.0.1.23).
- **Device Server Port** – This is the IP Port over which the Device Server communicates. It should not be changed unless there are unusual network issues at a particular installation.
- **SMTP Server** – This is the name of the SMTP server that is used to issue **Notification Rule** email.
- **Show Temperature in Centigrade** – This checkbox controls how lamp temperatures are displayed
- **Assembly** – this read-only field describes the current .Net assembly version number used by Spinoza Navigator.
- **View License Configuration** – This link will take you to the License configuration page, where you can enter a new license key, or view the current license parameters.

Note that if you place your cursor over any of the help symbols, explanatory text describing the meaning of the configuration parameter will appear.

Whenever you make changes, you should click the **Save Site Settings** button to save the settings back to the system.

7. Device Configuration page

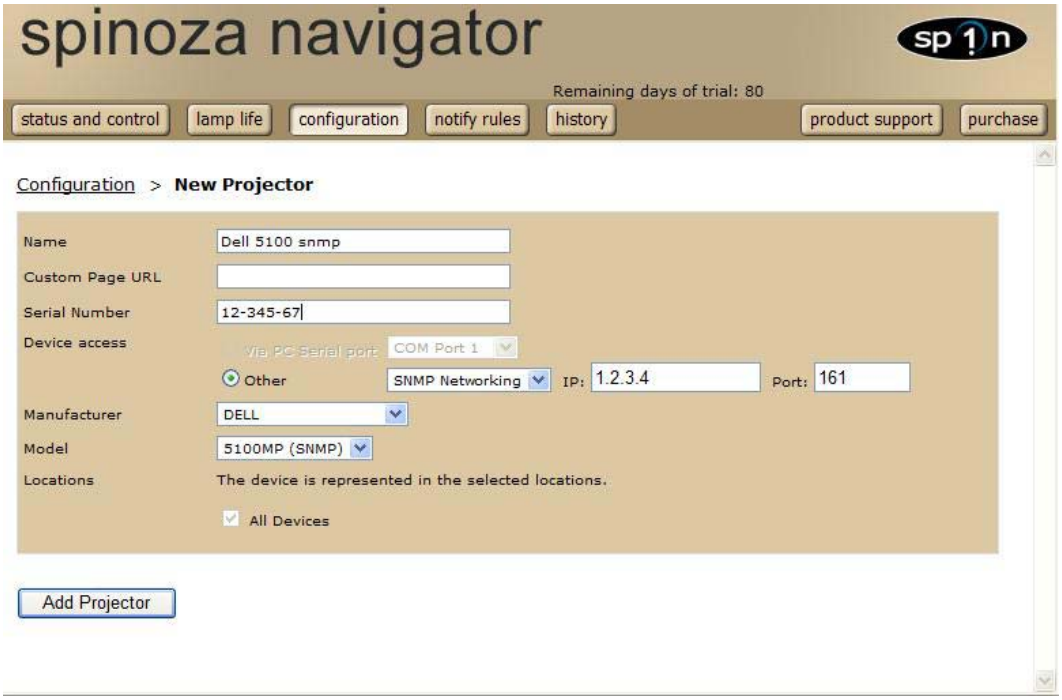
To create and save the configuration for a new device:

1. Click on **Configuration**.
2. Scroll down to the **Device Configuration** section of the page, and click on **Add Projector** or **Add Screen**.
3. Fill out the **Configuration** form with information about your new device.
4. Type in the **Serial Number** for the device to differentiate among multiple devices from the same manufacturer and of the same model.
5. Click on **Add Projector**.
   Various integrity checks will be performed. If there is an error, appropriate messages will appear near the errant fields and you must correct them before the configuration can be saved.

To change and save the configuration for an existing device:

1. Click on **Configuration**.
2. Scroll down to the **Device Configuration** section of the page, and click on the Name of an existing Projector or Screen.
3. Fill out the **Configuration** form with information about your device.
4. Click on **Save**.
   Various integrity checks will be performed. If there is an error, appropriate messages will appear near the errant fields and you must correct them before the configuration can be saved.

NOTE: There are two **Device Configuration** pages, one each for projectors and screens. The projector page is described here; the screen page is virtually identical (with some controls removed). The **Device Configuration** pages have 2 modes: Edit or New. The page is identical, except for some control labels (**Save Changes** vs. **Add Projector**). Also, since the device has yet to be added, no **Scheduled Commands** will appear in **New** mode.



The following describes each of the possible fields on this page:

- **Name** – you can supply any unique name for a projector. This is the name that will appear on all displays for that projector.
- **Driver** – this read-only field describes the current driver for that projector
- **Port Family** – this read-only field describes the port being used to communicate with the device
- **Max Lamp Hours** – this read-only field is based on the driver and defines the anticipated lifetime of the projector lamp.
- **Custom Page URL** – this optional field can be used to define the address of the device's internal web page, if any. Some devices support direct control via an internal web page. If this field is provided, it will appear as a link on the site configuration page.
- Serial Number – this optional field can be used to record the serial number of the device. It will appear in reports such as lamp usage and on the Setup page.
- **Device Access** – describes how the projector is connected. Serial (or COM) ports are described by numbers; they must be hard-wired via cable from the Device Server computer to the projector. More often, a network configuration is used. The appropriate choice is selected from the dropdown, which will initialize the address and port fields. You then adjust the address field as appropriate to the device. Typically, the default port value is correct and need not be modified.
- **Manufacturer** – selection of the manufacturer from this dropdown will control which choices are available under the Model dropdown.
- **Model** – combined with the **Manufacturer**, this defines which driver will be used to communicate with the projector.

- **Locations** – all defined **Locations** appear here in a list. You can add or remove a projector from a Location via the check boxes.
- **Scheduled Commands** – Scheduled Command editing is an **Advanced** feature (described in that section). On this page, it operates just like the device and **Location** lists on the **Site Configuration** page. Click the name to get to the command, check the box to delete it, and use the **Add** button to define a new scheduled command. Because scheduled commands are what keep the system aware of the status of devices, caution must be taken when modifying them. Because of this, a confirmation dialog, below, appears before allowing you to perform any scheduled command modifications.

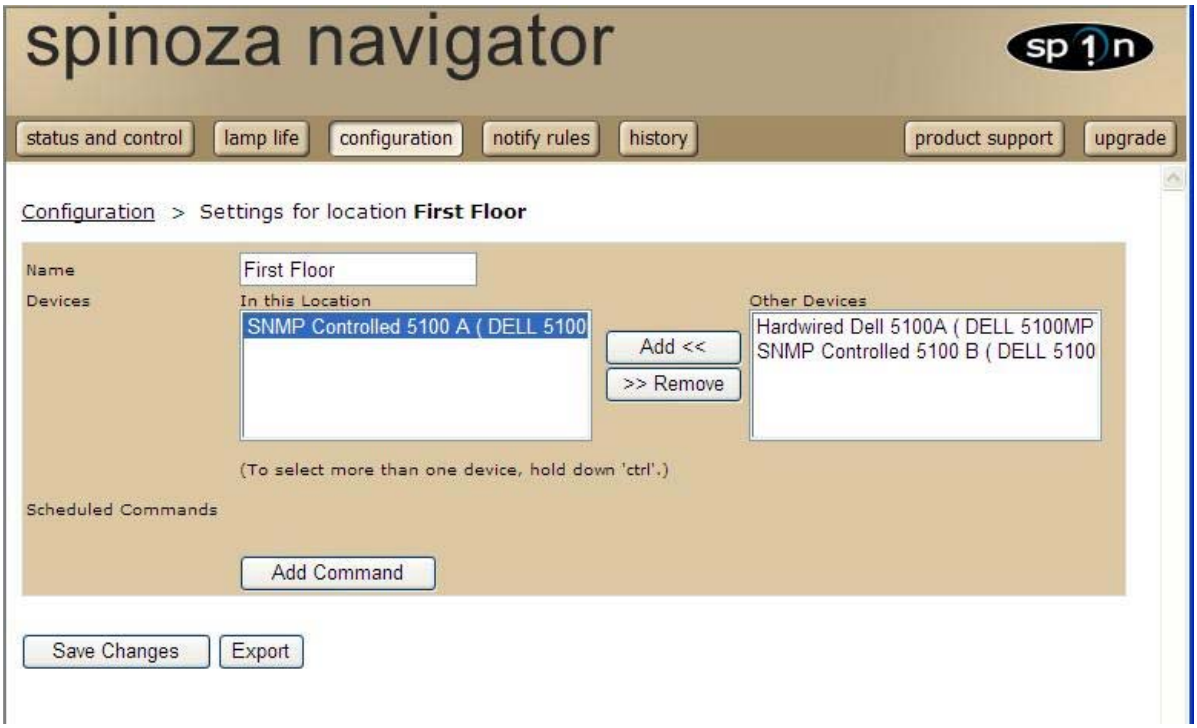
Microsoft Internet Explorer
Caution - editing scheduled commands should only be performed with sufficient training.
Do you wish to continue?
OK
Cancel

8. Location Configuration page

The **Location Configuration** page provides you with a one-stop spot for grouping devices into locations.

To create a new Location or edit an existing one:

1. Click on Configuration.
2. Scroll down the page to Locations,
   or
   Click on the name of an existing location.



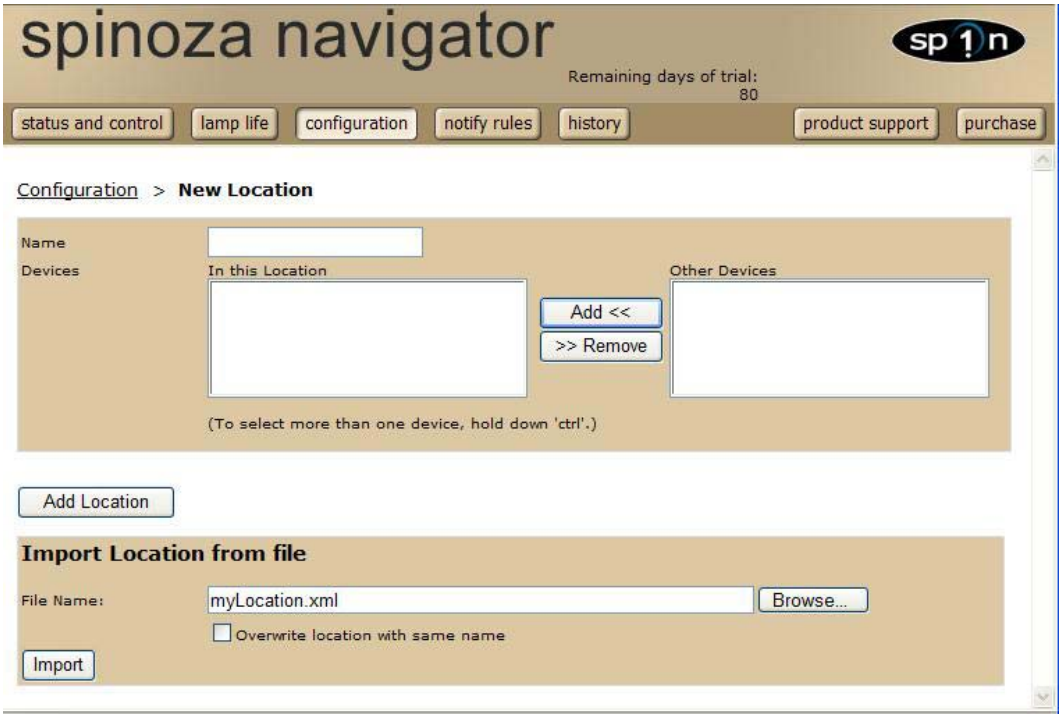
As with devices, this page appears in two modes (**Edit** and **New**), but the functionality is the same. You can define the location's name in the given text box. By selecting the available devices in the two list boxes and then using the **Add** and **Remove** buttons, you can define which devices appear under control of that location. Press **Save Changes** (or **Add Location** in **Edit** mode) to record your changes. **Location** names must be unique.

You can also add scheduled commands for the entire location via the Add Command button. As with device scheduled commands, this is considered an Advanced Feature, and is described in that section.

Importing and Exporting Locations

When the Location page is in Edit mode, you will see a button on the bottom labeled ‘Export’. This gives you the ability to save the definition of that location as an XML or CSV file. If you are in an environment where configurations change often, it may be useful to have known configurations to restore.

When the page is in New mode, the page will appear as below:



In this mode, you can enter a file name to import, or browse to one via the Browse button. When the Import button is selected, the file will be read and validated. If there are no errors, the location defined in the file will be added to the current configuration. There are two formats for importing files: XML and CSV. The rules for file format and importing are described in depth in the Advanced section.

Saving Different Versions of a Location

You may need to create, export, and import multiple versions of a Location and a set of devices associated with the Location.

To replace a current Location with a previous version of the same Location with the same name:

1. Click the Browse button to locate the XML or CSV file containing the replacement Location.
2. Click to select the box labeled “Overwrite location with same name”.
3. Click the Import button.

9. Lamp Life Page

The **Lamp Life** page of the Navigator Web Interface summarizes the lamp life of all projectors in the system. A sample appears below:

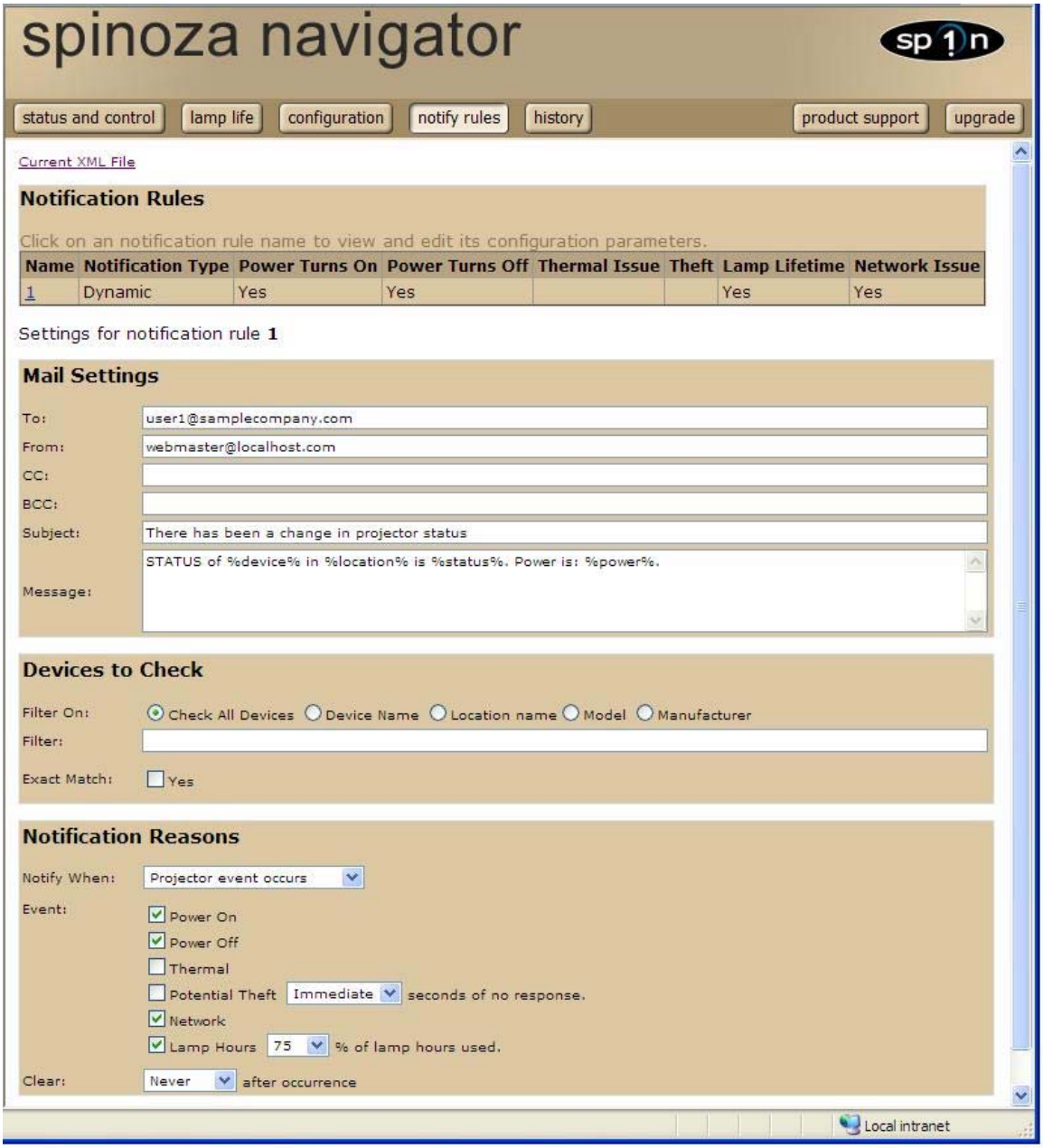
This page presents a simple report showing each projector in the system, and a profile on its current lamp usage. **Note: This sample page was made from a system that wasn't online, thus the Unknown entries. Usually these would represent actual hours.**

The report can be sorted by column by clicking on the column name. Clicking on a name twice in succession will result in a reverse sort.

The **Export** buttons allow you to download the contents of the report formatted as an XML file, a CSV file (ready for import to Microsoft Excel) or as an HTML page.

10. Notify Rules Page

The **Notify Rules** page allows you to configure rules that are used by the **Event Monitor** to send email notifications:


spinoza navigator
status and control
lamp life
configuration
notify rules
history
product support
upgrade
Current XML File
Notification Rules
Click on an notification rule name to view and edit its configuration parameters.
Name Notification Type Power Turns On Power Turns Off Thermal Issue Theft Lamp Lifetime Network Issue
1 Dynamic Yes Yes Yes Yes
Settings for notification rule 1
Mail Settings
To: user1@samplecompany.com
From: webmaster@localhost.com
CC:
BCC:
Subject: There has been a change in projector status
Message: STATUS of %device% in %location% is %status%. Power is: %power%.
Devices to Check
Filter On: Check All Devices Device Name Location name Model Manufacturer
Filter:
Exact Match: Yes
Notification Reasons
Notify When: Projector event occurs
Event: Power On
Power Off
Thermal
Potential Theft Immediate seconds of no response.
Network
Lamp Hours 75 % of lamp hours used.
Clear: Never after occurrence
Local intranet

Notification Rules section

This section provides a snapshot view of much of the important information about each currently defined notification rule. By selecting the rule number, you can edit that rule.

Mail Settings section

In the **Mail Settings** section, you can define the various parameters associated with a rule's email: ***send to***, ***send cc***, ***send bcc***, ***sent from***, ***message*** and ***subject***. Note that the ***subject*** and ***message*** will be filled in automatically when the reason is selected via the dropdown in the **Notification Reason** section. The ***message*** and ***subject*** sections can contain the following dynamic substitution keys – when the email is issued these fields will be replaced with the corresponding value.

%status%	text string describing device status
%power%	On or Off, depending on power state
%input%	Name of input channel (e.g. S Video) the projector is currently using
%temp%	Current lamp temperature
%hours%	Current lamp hours
%comm%	Communications status
%device%	Device name
%location%	All locations for device
%devicePort%	Port device is using

Devices to Check section

This section defines the scope of the current rule. In other words, which devices should this rule apply to? The default is for the rule to apply to all devices, but you can use the radio buttons to have a given rule apply to devices whose name, location, model or manufacturer match the filter string. Unless the **exact match** box is checked, this filter string will be wild-carded for matching (for example, a name filter **Dell** would include any device whose name began with **Dell**).

Notification Reason section

This section defines what event will trigger the rule to run. There are two types of events: timed and dynamic. You can define when any notification is cleaned from the notification history. By default, the notifications will never be deleted.

Timed events are the simpler to define – user selects when the event is to occur and how often it should repeat. The following pre-defined timed events are provided:

- Filter needs cleaning
- Warranty is running out
- Maintenance is scheduled
- User-defined reason

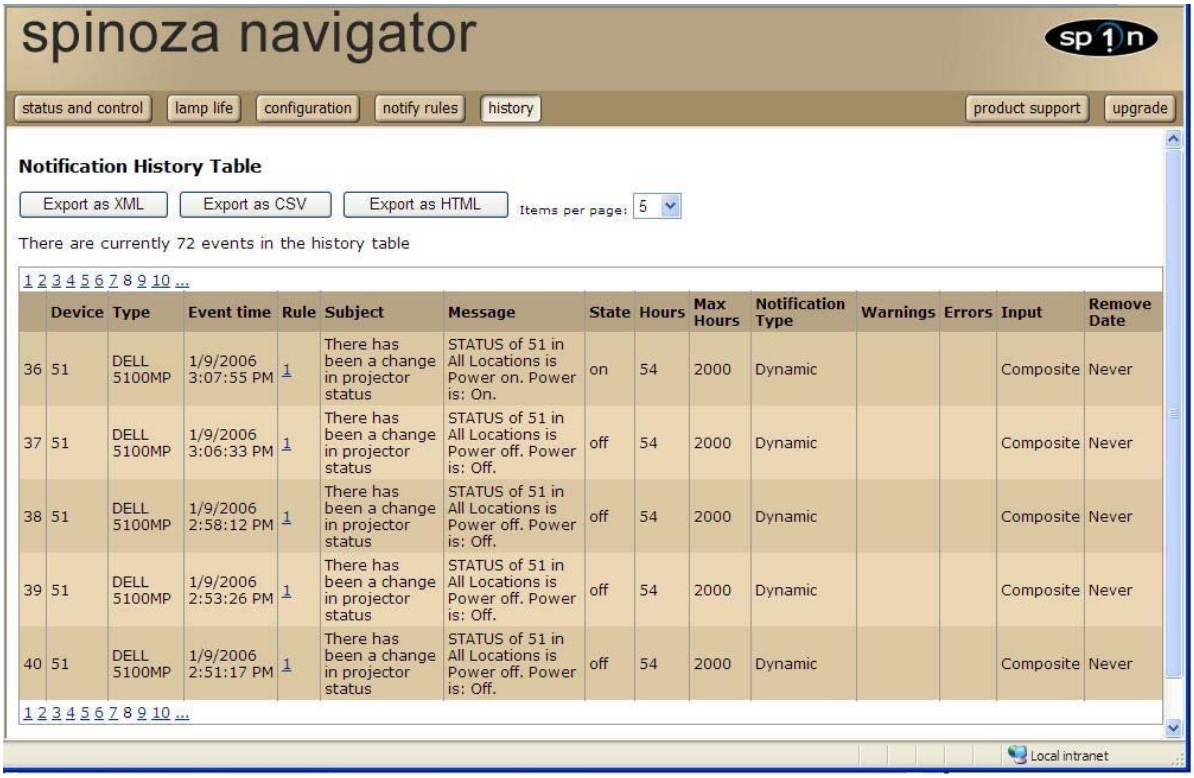
When a timed event is selected, specific text will pre-populate the message and subject sections of the **Mail Settings** area. See the **Advanced Users** section to learn how to define your own events.

Dynamic events occur when something happens to the devices. A given rule can combine any of the following reasons:

- **Power On** – a device power on is detected
- **Power Off** – a device power off is detected
- **Thermal** – the thermal warning (provided by some devices) is detected
- **Potential Theft** – when the device is disconnected from the network, this may mean the device is being stolen. You can also configure an amount of time to wait, in case periodic unplugging is expected.
- **Network** – a network error is detected.
- **Lamp Hours** – when the device reaches a threshold of lamp usage.

11. History Page

The **History** page allows you to examine the history of events that triggered **Notification Rules**:


spinoza navigator
status and control
lamp life
configuration
notify rules
history
product support
upgrade
Notification History Table
Export as XML
Export as CSV
Export as HTML
Items per page: 5
There are currently 72 events in the history table
1 2 3 4 5 6 7 8 9 10 ...
Device Type Event time Rule Subject Message State Hours Max Hours Notification Type Warnings Errors Input Remove Date
36 51 DELL 5100MP 1/9/2006 3:07:55 PM 1 There has been a change in projector status STATUS of 51 in All Locations is Power on. Power is: On. on 54 2000 Dynamic Composite Never
37 51 DELL 5100MP 1/9/2006 3:06:33 PM 1 There has been a change in projector status STATUS of 51 in All Locations is Power off. Power is: Off. off 54 2000 Dynamic Composite Never
38 51 DELL 5100MP 1/9/2006 2:58:12 PM 1 There has been a change in projector status STATUS of 51 in All Locations is Power off. Power is: Off. off 54 2000 Dynamic Composite Never
39 51 DELL 5100MP 1/9/2006 2:53:26 PM 1 There has been a change in projector status STATUS of 51 in All Locations is Power off. Power is: Off. off 54 2000 Dynamic Composite Never
40 51 DELL 5100MP 1/9/2006 2:51:17 PM 1 There has been a change in projector status STATUS of 51 in All Locations is Power off. Power is: Off. off 54 2000 Dynamic Composite Never
1 2 3 4 5 6 7 8 9 10 ...
Local intranet

This is a simple viewing report. You can choose to export the file in XML, CSV (formatted for Microsoft Excel), or HTML format. The only other controls on the page are the **Items per page** dropdown (when selected the page will redraw with that number of items the maximum shown on a page) and the page numbers. When you click on a page number link, that page will display.

12. Advanced

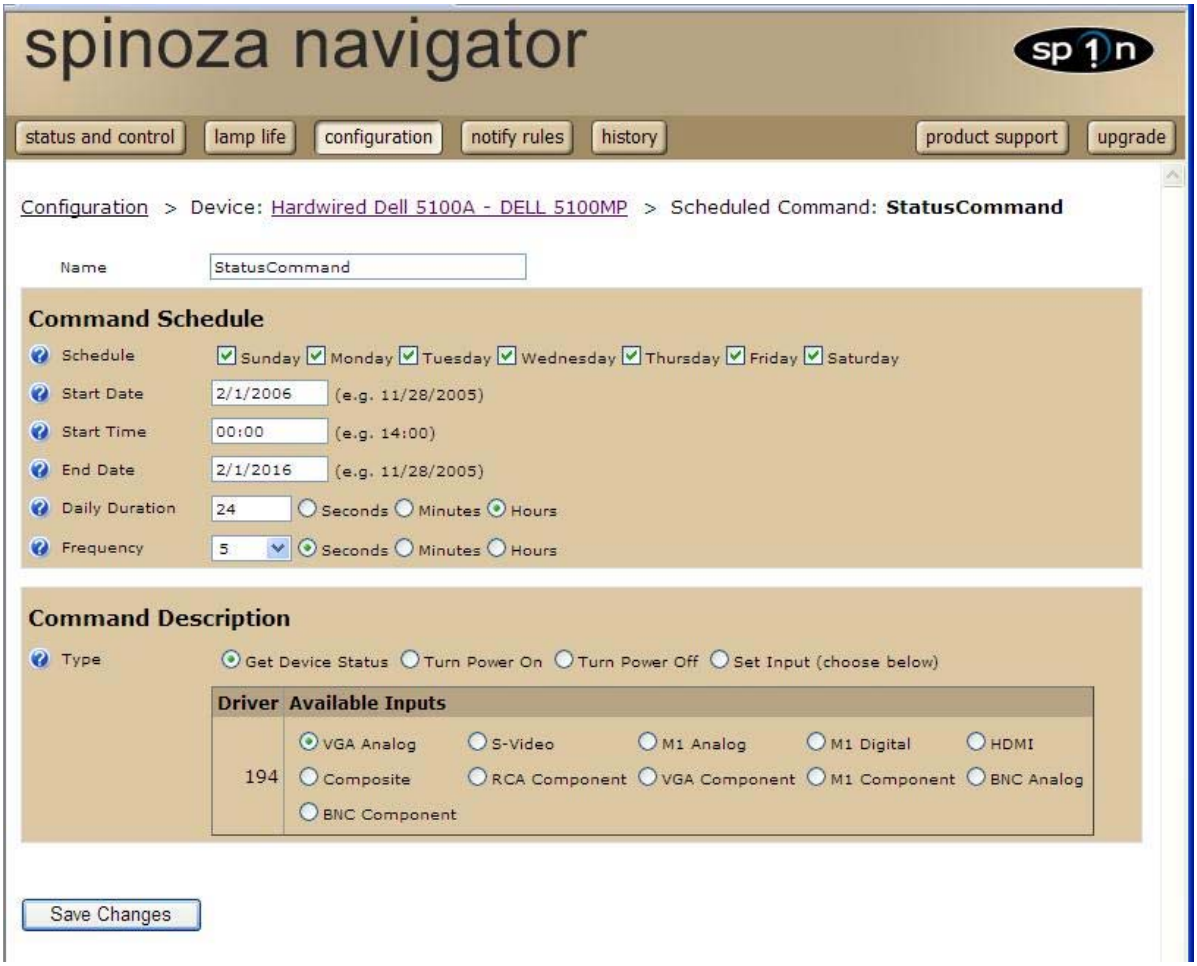
Scheduled Commands

The **Scheduled Commands page** is used to create or modify commands that can discretely or periodically change the state of a chosen device. Scheduled commands allow you to automatically turn devices on or off, or set their inputs, during specified times.

To go to the Command page from the bottom of a Configuration page for either a Device or Location:

- Click on Add Command, or click on the name of an existing command.

The image below depicts a sample command. Note that as with the Site Configuration page, the Scheduled Commands page provides roll-over help symbols to help you understand the purpose of each field.



Scheduled commands can be applied to an individual device or to all devices in a location (by defining the scheduled command as part of the location).

Note on the GetStatus Command

By default, all devices are created with a command called 'StatusCommand', which regularly checks and reports on the status of the device. This command is required for the server to be able to actively query the attached device for information on its current status and generally should not be erased. However, you might wish to modify the Frequency of the command (see below), increasing the interval for faster response, or decreasing the interval to reduce network load. You should only modify this setting if you are an advanced user with knowledge of the local network. Another option is to create a single GetStatus command attached to a location, rather than have it be specific to a device. This allows you to create a simpler configuration, as you can modify a single Frequency to tune the loading of the entire site.

Only a single GetStatus command will be used by Navigator for any device. If you have set multiple commands for a device (for example, both as an individual device and as part of a Location), the following priorities will apply:

1. Any GetStatus command attached to a specific device has the highest priority. If a device has a GetStatus command, locations are not checked for GetStatus commands.
2. However, if a device does not have a GetStatus command, the locations are checked in alphabetic order (except All Devices). The first GetStatus command found for a particular device is applied to that device.
3. Finally, the All Devices location is checked. Any GetStatus command for this all-inclusive location is applied to any devices that still do not have GetStatus commands.

Note on the GetAdvanced Command

In addition to the GetStatus command, some device types also use a special GetAdvanced command (called 'AdvancedStatus'). The GetAdvanced command is very similar to the GetStatus command, except that it checks for rarely used status information that is specific to this device type. Because these status values are less regularly used, the default frequency is greater (the device server checks for these fields less frequently). This command should generally not be deleted, but it may be desirable to alter the frequency.

Scheduled commands are generally set up to run periodically. However, location-based Scheduled Commands can also be configured to run 'On Demand'. When a location has On Demand type scheduled commands, those commands will appear as buttons on the location control bar, as in this example using the Location "Second Floor":

When creating a new Command, choose an appropriate name for the command before moving onto the Command Schedule and Command Description sections. Note: Each command must have a name **unique** within that set of commands.

Command Schedule section

The **Command Schedule** section describes how to schedule the command. Here you can pick how long each day the command should run (its Duration) filter what days of the week the command should run, and designate whether a command should be scheduled or should run only on demand. All the fields on this page are based on daily command scheduling. **Schedule** refers to what day(s) of the week the command should execute. Only the days that the command should run should be checked. **Start Date** indicates the date the command should begin, and **Start Time** indicates when on that day the scheduling should begin. **End Date** defines the last day the command should run**.**
An example of scheduling would be:

- A command activating from 3/1/2006 5:00 PM to 4/1/2006, occurring only on a Friday (meaning the command would trigger every Friday at 5:00 PM in March)

Once a command is set to run on a particular day, the **Duration** field defines how long the command should repeat. Likewise, the **Frequency** field defines how often the command should repeat. For example, a duration of 1 hour and a frequency of 1 minute will cause the command to run 60 times each indicated day.

Some Examples of Duration and Frequency:

- Duration (40 Minutes), Frequency (60 seconds)
  - Command is sent every minute for 40 minutes
- Duration (50 Seconds), Frequency (10 seconds)
  - Command is sent every 10 seconds for 50 seconds
- Duration (30 Seconds), Frequency (30 seconds)
  - Command is sent once.

When a Scheduled Command is associated with a location, the Usage choices will appear. From this, you select if the command is to run on a schedule only, on demand or both.

Command Description section

The **Command Description** section describes what type of command should be executed. There are 4 types of commands that may be scheduled:

- **Device Status** – Query the device for its current status.
- **Power On** – Turn on the device
- **Power Off** – Turn off the device

- **Set Input** – Set the device input to a particular setting. Note that the input settings vary depending on the device. When a location-based scheduled command is being defined, there will be an input choice for each driver type within that location. This allows you to set the inputs of all devices to a desired state with a single scheduled command.

In this example, the chosen projector has a command that executes every weekday in February at 8:30 AM, attempting to turn the projector on twice (every 15 seconds for 30 seconds) at that time.

Once all the information has been entered into the page, click **Add Command** (or **Save Changes** in **Edit** mode) to add this command.

Notification Rules

Defining User Events

The **Spinoza Navigator Web Client** comes with a set of pre-defined types to help you in creating notifications. However, these types can be personalized to your desire.

Within the Navigator's installed Zones directory (default dir: C:\program files\spinoza technology\zones), open the file **NotifyRuleUI.xml**. This file controls all the information for the default notification types. By changing the data in this file, you can control how they appear on the Notification Page of the Web Client.

The following defines the fields in each rule:

- **value** – This is an internal use value and **should not be changed.**
- **shortText**- This field determines what appears at the top of the Notification page after the rule has been saved.
- **fullText** – This field determines what text is visible under the **Notification Reason** section's drop-down menu.
- **message** – This field is inserted into the message line of the **Mail Settings** section when this notification is chosen.
- **subject** – This field is inserted into the subject line of the **Mail Settings** section when this notification is chosen.

Please remember that:

- The **value** field must not be changed. Doing so will cause errors in the Navigator Event Monitor.
- Field names must be separated with an equal ('=') sign from their values and the values must be enclosed by double quote (") marks.
    - Ex. subject="projector %device% is %status%"

Location Import File Format - XML

The XML format for a Location input file is defined below. Perhaps the easiest way of understanding how the file is structured is to export a file from a known configuration, and compare the contents to the definition below.

Basic schema of the XML file

```
<location>
  <command/>
 <command/>
  <device>
  <command/>
  </device>
  <device>
  </device>
</location>
```

Example of an XML file

```
<location name="conference room">
     <projector customPage="" maxLamp="4000" name="Mitsubishi"
      manufacturer="MITSUBISHI" driverID="43" model="XD300"
      locations="All Devices;Demo;LAB;conference room" serialNumber=""
      devicePort="192.168.1.223:10001" portID=”LANT” portFamily="TCP" portMode="">
        <command name="StatusCommand" operation="GetStatus" parameters=""
        frequency="5" duration="86400" usage="0" days="127" start="2006-05-31@00:00"
        stop="2016-05-31@00:00" />
      </projector>
 <screen name="screen" manufacturer="DALITE" driverID="10"
    model="DualScreen" locations="All Devices;Demo;conference room"
     serialNumber="" devicePort="192.168.1.190:10001" " portID=”LANT”
portFamily="TCP"
     portMode="">
  <command name="StatusCommand" operation="GetStatus" parameters=""
     frequency="5" duration="86400" usage="0" days="127"
     start="2006-05-31@00:00" stop="2016-05-31@00:00" />
  </screen>
  </location>
```

There is a single **<location>** node, with the following field:

- **name** – defines a unique name for the location. Names are case-independent.

<command> element – defines scheduled commands.
Attributes of a command:

- **name** - defines a unique name for the command. Names are case-independent, and must be unique within the command collection (under this location or under this device)

- **duration** – period, in seconds, for the command to run
- **frequency** – how often, in seconds, the command should run
- **operation** – name of command to run: SetInput, PowerOn, PowerOff, or GetStatus, Custom
- **parameters** – only valid for SetInput and Custom operations. When Custom, the parameter should be GetAdvanced. For SetInput commands, the format is driverid:input name
- **start** – starting time/date in the format yyyy-mm-dd@hh:ss
- **stop** – ending time/date in the format yyyy-mm-dd@hh:ss

<projector> or **<device>** element – defines a device (projector or screen). Attributes of a projector or device:

- **name** - defines a unique name for the device. Names are case-independent.
- **customPage** – url for the 'custom' link on the configuration page (projector only). This is an optional field
- **serialNumber** – the device serial number. This is an optional field.
- **manufacturer** – device manufacturer (must match choice in configuration dropdown)
- **model** – device mode (must match choice in configuration dropdown)
- **driverID** – driver number (as shown on configuration page)
- **locations** – list of locations where device resides. List is semi-colon delimited. The device will always be included in the file's named location, and always in 'All Devices'. Additional devices can be specified here (current location and All Devices are legal, but ignored)
- **devicePort** – communications port for device. When using IP communications, this should be ip:port (e.g. 192.168.1.219:161)
- **portFamily** – port type. This field is used to determine which port type should be used. The legal values are: COM, SNMP, TCP, HTTP.
- **portMode** – mode. This is an optional field. Typically empty, SNMP is required for SNMP drivers.
- **PortID** – the port type ID. The value must match an entry in the DBPortChoice.xml file, located in the Zones directory

Location Import File Format - CSV

The CSV format for a Location input file is defined below. Comma-Separated Value files are a simple mechanism for describing bulk inputs, and can be easily created from Excel spreadsheets (Use File/Save As and choose CSV format). For CSV files, the name of the location is the name of the file. For example, a file named C:/sample/myplace.csv will produce a location called 'myplace'.

The first line of the CSV file contains titles of the columns. The columns can be in any order, and the file can contain additional columns, but the following column titles are available (spaces can be removed and the names are case-insensitive):

- NAME – The name of the device
- IP ADDRESS – The IP address of the device
- PORT – The communications port for the device (optional)
- PORT ID – The port type ID.
- VENDOR – The device manufacturer
- MODEL – The device model
- SERIAL NUMBER – [optional] Serial number of device.

The NAME field contains the device name, and is subject to all the rules of manually input device names (no carets, slashes or semi-colons).

The IP ADDRESS field should contain the IP address of the projector. There is no validity check on the data you input, just a confirmation that the field exists.

The PORT field describes the port number that the device uses to communicate.

The PORT ID field defined the port type to construct. The value must match an entry in the DBPortChoice.xml file, located in the Zones directory

The VENDOR and MODEL describe the device and are used to determine which driver to use for the device. The combination of the vendor name and model must be represented in the DBProjector.xml or DBScreen.xml files, located in the Zones directory.

The SERIAL NUMBER is an optional field, and can contain whatever information is relevant to your site.

Driver 4 (Christie Roadrunner L6) Configuration File Format - XML

The type 4 driver has an optional secondary configuration file, called driver_4.xml, which resides in the Zones directory (e.g. c:/Program Files/Spinoza Technology/Zones). This XML file is used to configure the buttons and commands for the extended inputs on this device. The format of the file allows you to configure these commands for all type 4 projectors in your system with a single entry, or to define specific commands for specific projectors (if, for example, the input slots are configured differently). When the file is not present, the driver will revert to standard (non-extended) inputs.

The XML format for a type 4 configuration file is defined below.

Basic schema of the driver 4.XML file

```
<inputs>
  <default>
      <input/>
  </default>
 <common>
      <input/>
  </common>
  <device>
       <input/>
 </device>
</inputs>
```

Example of an driver 4.XML file

```
<inputs>
   <default>
     <input inputNumber="1" inputName="ANALOG"  label="Input1 Analog"  />
     <input inputNumber="1" inputName="DIGITAL" label="Input1 Digital"  />
     <input inputNumber="2" inputName="VIDEO"  label="Input2 Video"  />
     <input inputNumber="2" inputName="RGB"    label="Input2 RGB"  />
     <input inputNumber="3" inputName="VIDEO"  label="Input3 Video"  advanced="true" />
     <input inputNumber="3" inputName="SVIDEO" label="Input3 S-Video"
advanced="true" />
   </default>
  <common name=”justone”>
     <input inputNumber="1" inputName="ANALOG"  label="Input1 Analog"  />
     <input inputNumber="1" inputName="DIGITAL" label="Input1 Digital"  />
     <device name=”sample2”/>
   </common>
   <device name="sample">
      <input inputNumber="2" inputName="ANALOG" label="Input2 Analog"  />
      <input inputNumber="2" inputName="DIGITAL" label="Input2 Digital"  />
   </device>
</inputs>
```

The <default> section defines the standard extended input commands for this system. These can be overridden in two ways:

- Any number of <common> sections can be present, which describe a set of inputs for a list of devices. Here, the ‘sample2’ device will use the inputs described in the ‘justone’ <common> section.
- In addition, individual devices can override <common> and <default> by using a stand-alone <device> section. Here, the ‘sample’ device will appear differently than all other type 4 devices.

Within a <device>, <common>, or <default> section is a list of <input> elements. The <input> elements will appear as the device input choices, in the order of the file.

<input> element attributes:

advanced – “true” or “false” (default is “false”). When “true”, this input will appear in the advanced panel (second line of the control display).

inputNumber – numerical. This attribute defines the input slot associated with they entry (1 to 3).

inputName – string. This attribute specifies the name of the input source.

label – string. This is the textual label that will appear on the display. Note that any space will be converted to a line break.

For more information

Additional product information is available at http://spinozatechnology.com/navigator via the Product Support button on the top navigation strip.